

What is claimed is:

1. An apparatus for the intensification of the production of high-viscosity oils which
5 contains the unit of ultrasonic excitation of the well bottom zone that consists of a
surface ultrasonic generator and at least one ultrasonic magnetostrictive radiator
placed at the end of oil-well tubing (OWT), which are electrically connected with each
other by two cords of a three-cord electrical cable, and the unit of the heating of OWT
that consists of a surface high-frequency generator and the line of the OWT heating,
10 which is distributed along the entire length of OWT, by high-frequency currents,
including the third cord of the three-cord electrical cable.
2. The apparatus of claim 1, wherein the unit of the OWT heating the surface high-
frequency generator on the daylight is electrically connected by a grounded wire to
OWT, which is electrically insulated from the casing pipe of a well, and at the place of
15 the location of the ultrasonic radiator the surface high-frequency generator is
connected to OWT by the third cord of the three-cord electrical cable.
3. An apparatus of claim 2, wherein the ultrasonic magnetostrictive radiator whose
inside diameter matches the OWT inside diameter.
4. An apparatus of claim 3, wherein the ultrasonic magnetostrictive radiator is made in
20 the form of a hollow cylinder or similar shape.
5. An apparatus of claim 1, wherein the unit of the OWT heating one output of the
surface high-frequency generator is connected on the daylight to one of the outputs of
the surface ultrasonic generator and the cord of the three-cord electrical cable which is

connected to this output is a common cord for both generators, and the second output of the surface high-frequency generator is connected by the third cord of the three-cord electrical cable at the place of the location of the ultrasonic radiator to the common cord of the three-cord electrical cable.

- 5 6. An apparatus of claim 5, wherein the line of the OWT heating by high-frequency currents further contains at least two inductors placed on OWT and connected to the third cord of the three-cord electrical cable.
7. An apparatus of claim 6, wherein the ultrasonic magnetostrictive radiator whose inside diameter matches the OWT inside diameter.
- 10 8. An apparatus of claim 7, wherein the ultrasonic magnetostrictive radiator is made in the form of a hollow cylinder or similar.
9. A method for intensification of production of high-viscosity oils, in which the viscosity of oil in the well bottom zone is decreased by the effect of a high-power ultrasonic field on it, in addition providing the heating of the well bottom zone,
15 maintaining the achieved viscosity of oil during its transportation to the daylight through the heating of oil-well tubing (OWT) by high-frequency currents.